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DETAILED ACTION

1. In view of the Appeal Brief filed on 10/30/2009, PROSECUTION IS HEREBY REOPENED. New grounds of rejections are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

/Cheryl J. Tyler/
Supervisory Patent Examiner, Art Unit 3744 .

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 13, 15, 16, 17, 20, 21 and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Ryan (U.S. Patent Number 5,004,355).

In regard to claims 13, 17, 20 and 27, Ryan teaches forming a unit 10 from a bulb thermometer 12 having temperature sensitive element 16 and a thermal buffer liquid 32 in a substantially transparent container 20 (Figs. 1 and 2); placing the unit container at a site to be monitored inside the refrigerator (C-3, L-4-7); visually observing a temperature variable property of the temperature sensitive element to determine if the temperature in the refrigerator is at, below or above a predetermined temperature range (C-3, L-43-47). The temperature sensitive element 16 is in non-insulated contact with the buffer liquid 32 and the observation of the temperature from the property variation of the temperature sensitive element within the container on indicia 18.

In regard to claim 15, Ryan teaches the thermal buffer liquid comprising water (C-2, L-60-63).

In regard to claim 16, the temperature sensitive element; suitable expandable liquid, of the bulb thermometer 12 does not require any external energy supply.

In regard to claim 21, the property is continuously changing its value including in a temperature range of about 7 and 10 degrees Celsius above the temperature limit.

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Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 14 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ryan (U.S. Patent Number 5,004,355).

In regard to claim 14, Ryan teaches most of the limitations of the claim but does not explicitly teach selecting the quantity of thermal buffer so that temperature equalization of the unit and the refrigerator requires at least about one hour. However, Ryan teaches that the container is liquid which will not have momentary fluctuation in the temperature (C-2, L-67 to C-3, L7). One having ordinary skill in the art would know how to adjust the equalization temperature by the quantity of the liquid through experimental procedures. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to select the quantity of thermal buffer so that temperature equalization of the unit and the

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refrigerator requires at least about one hour in order advantageously give more precise temperature readings regarding to the articles in the refrigerator.

In regard to claim 18, Ryan teaches a container 20 but does not explicitly teach the capacity of the container. Since the containers come in variety of sizes and capacities, than it would have been obvious to one having ordinary skill in the art at the time the invention was made to select a container capacity in the range of about fifty to two hundred and fifty cubic meters for the suitability of the experimental procedure in order to advantageously adjust the temperature equalization time to desired level.

6. Claims 19, 22, 28 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ryan (U.S. Patent Number 5,004,355) in view of Wu et al. (US 2002/0055578).

In regard to claims 19, 22 and 28, Ryan discloses the invention substantially as claimed. Ryan also discloses that some of the materials or equipment maintained in the environment may be adversely affected or ruined by any contamination, therefore, cover member 36 is provided to protect the contamination. Wu et al. recognize the same problem as described in the background of the invention for different thermometers including the application to the refrigerator at sub-ambient temperature ([0004]-[0009]). These indicators or probes can take a variety of forms: powders, films, surface coatings, wafers, tubes, inks, paints, waxes, gels, and shaped articles (e.g., plates, **vessels**, containers, caps, etc.) with clay material admixed, **suspended**, impregnated therein or applied as a surface coating thereto [0013], accordingly, it includes the ability of “swim”. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the temperature sensitive element of Ryan with the one

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disclosed by Wu et al. so as to have simple substitution of the thermometer and also to eliminate the contamination problem.

In regard to claim 31, Ryan teaches most of the limitations of the claim; including the shapes of plates, vessels, containers and caps, but does not explicitly teach that the temperature sensitive element is in the form of a fish. The applicant should also note that a change in the shape of a prior art device is a design consideration within the skill of the art. In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

7. Claims 23, 24, 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ryan/Wu as applied to claims 20 and 28 above, and further in view of Witonsky et al. (2003/0147450).

Ryan/Wu discloses the invention substantially as claimed. However, Jones/Takahashi does not disclose different portions with different properties. Witonsky et al. discloses that the separate portions with different properties are separate colors with different temperature limits for said property changes (Fig. 2; [0022], lines 5-9; [0032], lines 9-14). The temperature sensitive properties are material composition dependent. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of Ryan/Wu with a multiple properties in view of Witonsky et al. so as to indicate the temperature changes.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chen-Wen Jiang whose telephone number is (571) 272-4809. The examiner can normally be reached on Monday-Thursday from 8:00 to 6:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on (571) 272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Chen-Wen Jiang/
Primary Examiner, Art Unit 3744